Exercise-I (Conceptual Questions) Build Up Your Understanding

BIOMOLECULES

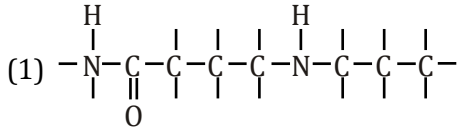
1. The nitrogenous base having two possible hydrogen bonding sites is –
(1) Thymine (2) Cytosine
(3) Guanine (4) None

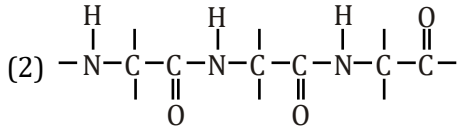
2. The correct statement in respect of protein haemoglobin is that it –
(1) Maintains blood sugar level
(2) Acts as an oxygen carrier in the blood
(3) Forms antibodies and offers resistance to diseases
(4) Acts as a catalyst for biological reactions

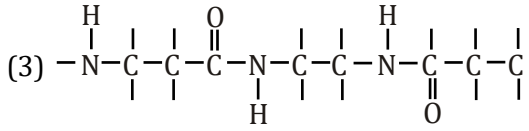
3. The hormone that helps in the conversion of glucose to glycogen is –
(1) Bile acids (2) Adrenaline
(3) Insulin (4) Cortisone

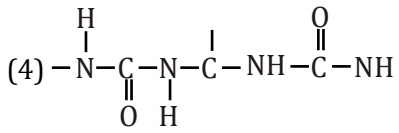
4. The helical structure of protein is stabilized by –
(1) Hydrogen bonds (2) Ether bonds
(3) Peptide bonds (4) Dipeptide bonds

5. Which of the following structures represents the peptide chain –

(1) 

(2) 

(3) 

(4) 

6. Which functional group participates in disulfide bond formation in proteins –
(1) Thioether (2) Thiol
(3) Thioester (4) Thiolactone

7. The cell membranes are mainly composed of–
(1) Phospholipids (2) Proteins
(3) Fats (4) Carbohydrates

8. Which is simplest amino acid –
(1) Alanine (2) Asparagine
(3) Glycine (4) Tyrosine

9. Which of the following biomolecules is insoluble in water –
(1) α–Keratin (2) Haemoglobin
(3) Ribonuclease (4) Adenine

10. The presence or absence of hydroxy group on which carbon atom of sugar differentiates RNA and DNA?
(1) 3rd (2) 4th (3) 1st (4) 2nd

11. The change in the optical rotation of freshly prepared solution of glucose is known as :-
(1) Tautomerism (2) Racemisation
(3) Specific rotation (4) Mutarotation

12. Which one of the following bases is not present in DNA ?
(1) Cytosine (2) Thymine
(3) Quinoline (4) Adenine

13. Lysine; $H_2N-(CH_2)_4-\underset{\underset{NH_2}{|}}{CH}-COOH$ is :-
(1) α-Amino acid
(2) γ-amino acid
(3) Amino acid synthesised
(4) β-Amino acid

14. In fibrous protein, polypeptide chains are held toegether by :-
(1) H-bond
(2) Disulphide linkage
(3) Electrostatic forces attraction
(4) 1 and 2 both

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15. Which is correct in following –
(1) Monosaccharides also known as sugars
(2) Polysaccharides are non sugars
(3) Maltose and Lactose are reducing sugar
(4) All of these

16. Structure of glycogen is similar to :-
(1) Amylose (2) Amylopectin
(3) Cellulose (4) Glucose

17. Which of the following gives osazone different from the other three :-
(1) Glucose (2) Mannose
(3) Galactose (4) Fructose

18. Anomers of glucose (α-form & β-form) are differ in the stereochemistry at which carbon–
(1) C-1 (2) C-2
(3) C-3 (4) All of these

19. Sucrose in presence of invertase on hydrolysis gave –
(1) Glucose (2) Fructose
(3) Ethyl alcohol (4) 1 & 2 both

20. Which of the following B group vitamins can be stored in our body.
(1) Vitamin B_1 (2) Vitamin B_2
(3) Vitamin B_6 (4) Vitamin B_{12}

21. Which of the following are polysaccharides –
(a) Starch (b) Cellulose
(c) Dextrins (d) Glycogen
(1) a, b & c (2) a, b, d
(3) a & c (4) a, b, c, d

22. Cellulose can not be tested by followings –
(1) Fehling's solution (2) Tollen's reagent
(3) Both of these (4) None of these

23. On hydrolysis of proteins, the product is/are–
(1) Amino acids (2) Peptides
(3) Enzymes (4) 1 & 2 both

24. Which of the following do not have hemiacetal group:-
(1) Fructose (2) Maltose
(3) Sucrose (4) Glucose

25. In amino acids, more number of amino than carboxyl groups makes it –
(1) Acidic (2) Basic
(3) Neutral (4) None of these

26. Which amino acids are called non essential –
(1) Those which can be synthesized in the body.
(2) Those which have more amino groups as compared to carboxyl groups
(3) Those which have equal number of amino acid and carboxyl groups
(4) None of these

27. Which of the following is not essential amino acid –
(1) Serine (2) Lysine
(3) Threonine (4) Tryptophan

28. In acidic & alkaline solution amino acids exists as a –
(1) Positive ion & negative ion respectively
(2) Negative ion & positive ions respectively
(3) Neutral in both medium
(4) None of these

29. In which of following shapes are found in tertiary structure of proteins –
(1) Fibrous (2) Globular
(3) Both of these (4) None of these

30. The example of globular protein is
(1) Silk (2) Collagen
(3) Haemoglobin (4) All of these

31. If a native protein is subjected to physical or chemical treatment which may disrupt its various forms without affecting its primary structure, are called –
(1) Inactive protein (2) Denatured protein
(3) Both of these (4) None of these

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32. The coagulation of egg protein while boiling of egg is called –
(1) Reversible protein denaturation
(2) Irreversible protein denaturation
(3) Renaturation
(4) None of these

33. An enzyme molecule may contain protein and non-protein part. Non-protein part is known as:-
(1) Holoenzyme (2) Cofactor
(3) Inverted enzyme (4) None of these

34. Cofactor which gets attached to the enzyme at the time of reaction are known as
(1) Coenzymes (2) Apoenzyme
(3) Prothetic group (4) None of these

35. Mainly DNA is localized in –
(1) Cytoplasm (2) Nucleus
(3) Mitochondria (4) Chloroplasts

36. RNA contains following pyrimidine bases –
(a) Thymine (b) Uracil
(c) Cytosine (d) Adenine
(1) b & c (2) a, b, c
(3) a, b, d (4) All of these

37. DNA molecules can duplicate themselves-called –
(1) Replication (2) Translation
(3) Transcription (4) None of these

38. Which of the following carbohydrates are branched polymer of glucose.
(1) Glycogen (2) Amylopectin
(3) Cellulose (4) Both (1) & (2)

39. Vitamin K
(1) Is phylloquinone
(2) Soluble in oils and fats
(3) Deficiency lenthens the blood clotting
(4) All of these

40. Which of the following is not an amino acid
(1) Histidine (2) Benzidine
(3) Alanine (4) Proline

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41. Vitamin C is called :
(1) Antisterility (2) Antiscurvy
(3) both of these (4) None of these

42. Reducing sugars are one which :
(1) Reduce fehling's solutions
(2) Not reduce tollen's reagent
(3) Have bonded aldehydic or ketonic groups
(4) All of these

43. Multiple deficiencies caused by lack of more than one vitamin are more common in human beings. This condition of vitamin deficiency is known as
(1) Avitaminosis (2) Xerophthalmia
(3) Convulsions (4) None of these

44. Which vitamin is synthesize in human body from carotene
(1) Vitamin-A (2) Vitamin-C
(3) Vitamin-K (4) All of these

45. Which of the following is correct about H–bonding in nucleotide –
(1) A–T G–C (2) A–G T–C
(3) G–T A–C (4) A–A T–T

POLYMER

46. Which of the following is monomer unit of polystyrene :-
(1) $-CH_2-\underset{\underset{CN}{|}}{CH}-$ (2) $-CF_2-CF_2-$
(3) $-CH_2-\underset{\underset{Cl}{|}}{CH}-$ (4) $-\underset{\underset{C_6H_5}{|}}{CH}-H_2-$

47. Weakest intermolecular forces are present in:-
(1) Neoprene (2) Terylene
(3) Polystyrene (4) Bakelite

48. Thermosetting polymer, Bakelite is formed by the reaction of phenol with :-
(1) CH_3CH_2CHO (2) CH_3CHO
(3) HCHO (4) HCOOH

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49. Which one is classified as a condensation polymer?
(1) Teflon (2) Acrylonitrile
(3) Dacron (4) Neoprene

50. Novolac is a :
(1) Linear polymer of urea and formaldehyde
(2) Crosslink polymer of urea and formaldehyde
(3) Linear polymer of phenol and formaldehyde
(4) Crosslink polymer of phenol and formaldehyde

51. Which of the following is not a semisynthetic polymer.
(1) Cis-polyisoprene (2) Cellulose nitrate
(3) Cellulose acetate (4) Valcanised rubber

52. Branched chain polymer is-
(1) High density polythene
(2) Low density polythene
(3) Poly vinyl chloride
(4) Bakelite

53. Mechanical properties like tensile strength, elasticity, toughness etc, are governed by intermolecular forces. These intermolecular forces are -
(1) Hydrogen bond
(2) Vander waals force
(3) Both of these
(4) None of these

54. Monomer unit of Nylon-6,6 is/are -
(1) Adipic acid
(2) 1,4-butamethylene diamine
(3) Caprolactum
(4) All of these

55. Which of following polymer is used as glass reinforcing materials in safety helmets-
(1) Terylene (2) Teflon
(3) Terephthalic acid (4) Ethylene glycol

56. Polymer used in radio and television cabinets-
(1) PVC (2) Polystyrene
(3) Polypropene (4) Glyptal

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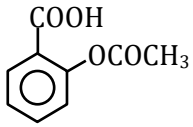
CHEMISTRY IN EVERYDAY LIFE

57. Aspirin is also known as –
(1) Methyl salicyclic acid
(2) acetyl salicylate
(3) Methyl salicylate
(4) Acetyl salicylic acid

58. Paracetamol is :-
(1) Analgesic (2) Antipyretic
(3) Both (4) Antiseptic

59.  is used as
(1) Antiseptic (2) Analgesic
(3) Antibiotic (4) Micro organism

60. Which among the following is a tranquilizer ?
(1) Equanil (2) promethazine
(3) Omeprazole (4) Cimetidine

61. Which is incorrect statement ?
(1) Drugs are chemicals of low molecular masses (100-500 μ)
(2) When drugs interact with macromolecular target and produce a biological responce, they are called as potential poisons
(3) Use of chemicals for threrapeutic effect is called chemotherapy
(4) Medicines are used in diagnosis, prevention and treatment of diseases

62. Drugs which interfere with natural action of histamine by competing with histamine are called.
(1) Antidepressant (2) Antihistamine
(3) Antimicrobial (4) Antipyretic

63. Barbituric acid and its derivative constitutes an important class of
(1) Narcotic analgesic (2) Antiallergic
(3) Tranquilizers (4) Antimicrobial

64. Drugs bind to a site (other than enzyme's active site). This site is named is.
(1) Competitive site (2) Allosteric site
(3) Non-active site (4) Super active site

65. Name of drug that bind to the receptor site and inhibit its natural function
(1) Antagonist
(2) Antireceptor
(3) Antacid
(4) Non-additive analgesic

66. First popular antacid drug was
(1) Cimetidine (2) Ranitidine
(3) Zantac (4) Equanil

67. Which chemical is responsible for mood change.
(1) Noradrenaline (2) Dimetapp
(3) Seldane (4) All

68. Which is not an example of tranquilizer
(1) Iproniazid (2) Phenelzine
(3) Ofloxacin (4) Barbiturates

69. Morphine is used in
(1) Cardiac pain (2) Terminal cancer
(3) Child birth (4) All

70. The first effective antibacterial agent discovered by Ehrlich
(1) Prontosil (2) Azo dye
(3) Salvarsan (4) Penicillin

71. Which is not Bactericidal antibiotic.
(1) Penicillin (2) Aminoglycosides
(3) Ofloxine (4) Erythromycine

72. Which is not Bacteriostatic antibiotic.
(1) Erythromycin (2) Penicillin
(3) Tetracycline (4) Chloromphenicol

73. Which broad spectrum antibiotic is given orally in case of typhoid and dysentery.
(1) Ampicillin (2) Amoxycilline
(3) Ofloxacin (4) Chloromphenicol

74. Find incorrect match

Drug	**Category**
(1) Chlordiazepoxide	Tranquilizer
(2) Chloramphenicol	Antibiotic
(3) Veronal	Antiseptic
(4) Sulphanilamide	Antibiotic

75. Find incorrect match

Drug	**Treatment of**
(1) Salvarsan	Syphilis
(2) Chloramphenicol	Typhoid
(3) Morphine	Cardiac pain
(4) Mixture of $Mg(OH)_2$ & $Al(OH)_3$	Analgesic

76. Which artificial sweetener is of great value to diabetic person.
(1) Aspartame (2) Saccharin
(3) Sucrose (4) Alitame

77. Which is mild tranquilizer used in controlling depression and hypertension.
(1) Meprobamate (2) Norethindrone
(3) Ethynylestradiol (4) Terpineol

78. 0.2% solution of phenol and 0.2-0.4 ppm chlorine in aqueous solution respectively behave as.
(1) Antiseptic, Disinfectant
(2) Disinfectant, Antiseptic
(3) Disinfectant, Antacid
(4) Antiseptic, Antacid

79. The first popular artificial sweetening agent is.
(1) Saccharin (2) Asparfame
(3) Alitame (4) Sucralose

80. Which is stable at cooking temperature & doesn't provide calories.
(1) Aspartame (2) Saccharin
(3) Sucralose (4) Alitame

81. Highest sweetness value found in
(1) Aspartame (2) Alitame
(3) Saccharin (4) Sucralose

82. Which sweetening agent is used in soft drinks.
(1) Aspartame (2) Saccharin
(3) Sucralose (4) Alitame

83. Which is unstable at cooking temperature
(1) Aspartame (2) Alitame
(3) Saccharin (4) All

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84. Soap are sodium or potassium salt of fatty acid unlike.
(1) Palmitic acid (2) Oleic acid
(3) 1 & 2 (4) Maleic acid

85. Which enhance lathering property of soap.
(1) Sodium carbonate
(2) Sodium rosinate
(3) Sodium stearate
(4) Trisodium phosphate

86. To make soft soap, saponification contain.
(1) NaOH (2) KOH
(3) Glycesol (4) Glycol

87. Hair conditioners contain which kind of detergent.
(1) Cationic (2) Anionic
(3) Non ionic (4) All

88. Which is used as food preservatives
(1) NaCl (2) Sugar
(3) Vegetable oil (4) All

89. Which is added to soap to impart antiseptic properties.
(1) Bithionol (2) Soframycin
(3) Glycol (4) Ethanol

EXERCISE-I (Conceptual Questions) ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	1	2	3	1	2	2	1	3	1	4	4	3	1	4	4
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	2	3	1	4	4	4	3	4	3	2	1	1	1	3	3
Question	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Answer	2	2	2	1	2	1	1	4	4	2	2	1	1	1	1
Question	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Answer	4	1	3	3	3	1	2	3	1	1	2	4	3	2	1
Question	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Answer	2	2	3	2	1	1	1	3	4	1	4	2	4	3	4
Question	76	77	78	79	80	81	82	83	84	85	86	87	88	89	
Answer	2	1	1	1	3	2	1	1	4	2	2	1	4	1	

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Exercise-II (Previous Year Questions) AIPMT/NEET

AIPMT 2006

1. Which one of the following is a peptide hormone–
(1) Glucagon (2) Testosterone
(3) Thyroxin (4) Adrenaline

2. During the process of digestion, the proteins present in food materials are hydrolysed to amino acids. The two enzymes involved in the process –

$$\text{Proteins} \xrightarrow{\text{Enzyme(A)}} \text{Polypeptides} \xrightarrow{\text{Enzyme(B)}}$$

Amino acids, are respectively –
(1) Amylase and Maltase
(2) Diastase and Lipase
(3) Pepsin and Trypsin
(4) Invertase and Zymase

AIPMT 2007

3. Which one of the following vitamins is water–soluble–
(1) Vitamin A (2) Vitamin B
(3) Vitamin E (4) Vitamin K

4. RNA and DNA are chiral molecules, their chirality is due to –
(1) D–sugar Component
(2) L–sugar component
(3) Chiral bases
(4) Chiral phosphate ester units

5. Which one of the following polymers is prepared by condensation polymerization
(1) Styrene (2) Nylon–66
(3) Teflon (4) Rubber

AIPMT 2008

6. In DNA, the complimentary bases are :
(1) Adenine and thymine ; guanine and uracil
(2) Adenine and guanine ; thymine and cytosine
(3) Uracil and adenine ; cytosine and guanine
(4) Adenine and thymine ; guanine and cytosine

7. Which one of the following is an amine hormone:
(1) Oxypurin (2) Insulin
(3) Progesterone (4) Thyroxine

8. Which of the following statement is not true :
(1) Natural rubber has the trans-configuration at every double bond.
(2) Buna-S is a copolymer of butadiene and styrene.
(3) Natural rubber is a 1, 4-polymer of isoprene.
(4) In vulcanization, the formation of sulphur bridges between different chains make rubber harder and stronger.

9. Green chemistry means such reaction which :
(1) Reduce the use and production of hazardous chemicals.
(2) Are related to the depletion of ozone layer
(3) Study the reaction in plants
(4) Produce colour during reactions

AIPMT 2009

10. Which one of the following is employed as a tranquilizer ?
(1) Chlorpheninamine (2) Equanil
(3) Naproxen (4) Tetracycline

11. Structures of some common polymers are given. Which one is not correctly presented ?
(1) Nylon 6 $-[NH(CH_2)_6NHCO(CH_2)_4 - CO -]_n$
(2) Teflon $+CF_2 - CF_2 -)_n$
(3) Neoprene $\left(-CH_2-\underset{\underset{Cl}{|}}{C}=CH-CH_2-CH_2-\right)_n$
(4) Terylene $\left(- OC-\langle\bigcirc\rangle-COOCH_2-CH_2-O-\right)_n$

12. The segment of DNA which acts as the instrumental manual for the synthesis of the protein is :-
(1) Nucleoside (2) Nucleotide
(3) Ribose (4) Gene

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13. Which of the following hormones contains iodine ?
(1) Thyroxine (2) Insulin
(3) Testosterone (4) Adrenaline

AIPMT 2010

14. Which one of the following is employed as a tranquilizer drug ?
(1) Mifepristone (2) Promethazine
(3) Valium (4) Naproxen

15. Which one of the following does not exhibit the phenomenon of mutarotation ?
(1) (–) Fructose (2) (+) Sucrose
(3) (+) Lactose (4) (+) Maltose

16. Which of the following structures represents Neoprene polymer ?
(1) $\left(-\underset{\underset{C_6H_5}{|}}{CH}-CH_2\right)_n$ (2) $\left(CH_2-\underset{\underset{Cl}{|}}{C}=CH-CH_2\right)_n$
(3) $\left(CH_2-\underset{\underset{CN}{|}}{CH}\right)_n$ (4) $\left(CH_2-\underset{\underset{Cl}{|}}{CH}\right)_n$

AIPMT Main 2010

17. Fructose reduces Tollen's reagent due to :-
(1) Primary alcoholic group
(2) Secondary alcoholic group
(3) Enolization of fructose followed by conversion to aldehyde by base.
(4) Asymmetric carbons

AIPMT Pre. 2011

18. Which one of the following statements is not true regarding (+) Lactose ?
(1) On hydrolysis (+) Lactose gives equal amount of D(+) glucose and D(+) galactose
(2) (+) Lactose is a β–glycoside formed by the union of a molecule of D(+) glucose and a molecule of D(+) galactose
(3) (+) Lactose is a reducing sugar and does not exhibit mutarotation
(4) (+) Lactose, $C_{12}H_{22}O_{11}$ contains 8–OH groups

19. Which one of the following is empolyed as Antihistamine ?
(1) Chloramphenicol
(2) Diphenyl hydramine
(3) Norethindrone
(4) Omeparazole

20. Which of the following one is classified as polyester polymer ?
(1) Terylene (2) Bakelite
(3) Malamine (4) Nylon-66

AIPMT Mains 2011

21. Which of the following is not a fat soluble vitamin ?
(1) Vitamin A (2) Vitamin B complex
(3) Vitamin D (4) Vitamin E

22. Which of the following statements about 'Denaturation" given below are correct ?
Statements
(a) Denaturation of proteins causes loss of secondary and tertiary structures of the protein
(b) Denaturation leads to the conversion of double strand of DNA into single strand.
(c) Denaturation affects primary structure which gets distorted
Options :
(1) (a), (b) and (c) (2) (b) and (c)
(3) (a) and (c) (4) (a) and (b)

AIPMT Pre 2012

23. Deficiency of vitamin B_1 causes the disease
(1) Cheilosis (2) Sterility
(3) Convulsions (4) Beri-Beri

24. Which one of the following sets of mono-saccharides forms sucrose?
(1) β-D-Glucopyranose and α-D-fructofuranose
(2) α-D-Glucopyranose and β-D-fructopyranose
(3) α-D-Galactopyranose and α-D-Glucopyranose
(4) α-D-Glucopyranose and β-D-fructofuranose

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25. Which one of the following is not a condensation polymer?
(1) Dacron (2) Neoprene
(3) Melamine (4) Glyptal

26. Which of the following statements is false?
(1) The repeat unit in natural rubber is isoprene
(2) Both starch and cellulose are polymers of glucose
(3) Artificial silk is derived from cellulose
(4) Nylon-66 is an example of elastomer

AIPMT Mains 2012

27. Which one of the following sets forms the biodegradable polymer ?
(1) $HO-CH_2-CH_2-OH$ & HOOC- COOH
(2) $CH=CH_2$ and $CH_2=CH-CH=CH_2$
(3) $CH_2=CH-CN$ and $CH_2=CH-CH=CH_2$
(4) H_2N-CH_2-COOH and $H_2N-(CH_2)_5-COOH$

28. Chloroamphenicol is an :-
(1) Antiseptic and disinfectant
(2) Antibiotic broad spectrum
(3) Antifertility drug
(4) Antihistaminic

NEET UG 2013

29. Nylon is an example of :-
(1) Polythene (2) Polyester
(3) Polysaccharide (4) Polyamide

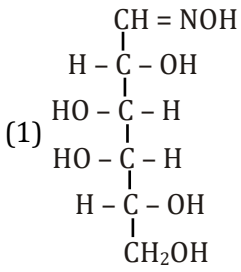
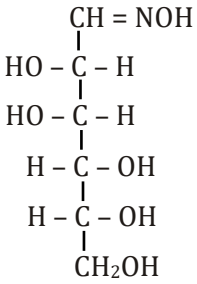
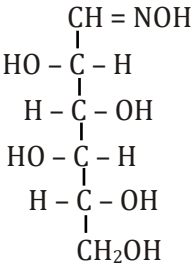
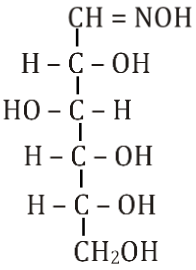
30. Antiseptics and disinfectants either kill or prevent growth of microganisms. Identify which of the following statements is **not true**:-
(1) Disinfectants harm the living tissues
(2) A 0.2% solution of phenol is an antiseptic while 1% solution acts as a disinfectant
(3) Chlorine and Iodine are used as strong disinfectants
(4) Dilute solutions of Boric acid and Hydrogen Peroxide are strong antiseptics

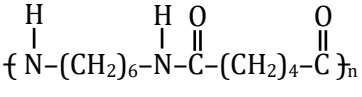
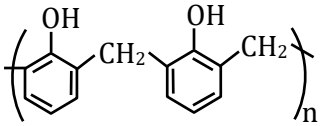
31. Which is the monomer of Neoprene in the following ?
(1) $CH_2=CH-C\equiv CH$ (2) $CH_2=CH-CH=CH_2$
(3) $CH_2=\underset{\displaystyle CH_3}{\underset{|}{C}}-CH=CH_2$ (4) $CH_2=\underset{\displaystyle Cl}{\underset{|}{C}}-CH=CH_2$

AIPMT 2014

32. Artificial sweetner which is stable under cold conditions only is :-
(1) Saccharine (2) Sucralose
(3) Aspartame (4) Alitame

33. D (+) glucose reacts with hydroxylamine and yields an oxime. The structure of the oxime would be :

(1) 
(2) 
(3) 
(4) 

34. Which one of the following is an example of a thermosetting polymer?
(1) $\left(CH_2-\underset{\displaystyle Cl}{\underset{|}{C}}=CH-CH_2\right)_n$
(2) $\left(CH_2-\underset{\displaystyle Cl}{\underset{|}{CH}}\right)_n$
(3) 
(4) 

TG: @Chalnaayaaar

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35. Which of the following organic compounds polymerizes to form the polyester Dacron?
(1) Propylene and para HO–(C_6H_4)–OH
(2) Benzoic acid an ethanol
(3) Terephthalic acid and ethylene glycol
(4) Benzoic acid and para HO–(C_6H_4)– OH

Re-AIPMT 2015

36. Caprolactam is used for the manufacture of :
(1) Terylene (2) Nylon-6,6
(3) Nylon-6 (4) Teflon

AIPMT 2015

37. Bithional is generally added to the soaps as an additive to function as a/an :-
(1) Dryer (2) Buffering agent
(3) Antiseptic (4) Softner

38. Biodegradable polymer which can be produced from glycine and aminocaproic acid is :-
(1) PHBV (2) Buna-N
(3) Nylon 6, 6 (4) Nylon 2- nylon 6

NEET-I 2016

39. In a protein molecule various amino acids are linked together by :
(1) α-glycosidic bond (2) β-glycosidic bond
(3) Peptide bond (4) Dative bond

40. The **correct** statement regarding RNA and DNA, respectively is :
(1) The sugar component in RNA is arabinose and the sugar component in DNA is 2'-deoxyribose.
(2) The sugar component in RNA is ribose and the sugar component in DNA is 2'-deoxyribose.
(3) The sugar component in RNA is arabinose
(4) The sugar component in RNA is 2'-deoxyribose and the sugar component in DNA is arabinose.

41. Which one given below is a non-reducing sugar ?
(1) Maltose (2) Lactose
(3) Glucose (4) Sucrose

42. Natural rubber has
(1) All cis-configuration
(2) All trans-configuration
(3) Alternate cis-and trans-configuration
(4) Random cis-and trans-configuration

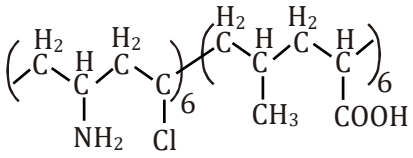
43. Which of the following is an analgesic ?
(1) Novalgin (2) Penicillin
(3) Streptomycin (4) Chloromycetin

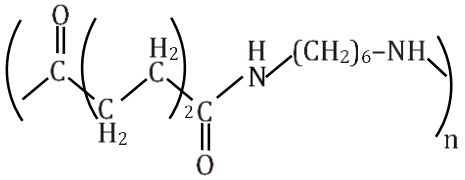
NEET-II 2016

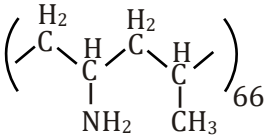
44. The central dogma of molecular genetics states that the genetic information flows from :-
(1) DNA → RNA → Proteins
(2) DNA → RNA → Carbohydrates
(3) Amino acids → Proteins → DNA
(4) DNA → Carbohydrates → Proteins

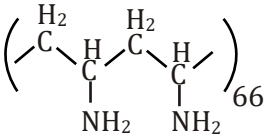
45. Which one of the following compounds shows the presence of intramolecular hydrogen bond ?
(1) Cellulose
(2) Concentrated acetic acid
(3) H_2O_2
(4) HCN

46. Which one of the following structures represents nylon 6,6 polymer ?

(1) 

(2) 

(3) 

(4) 

TG: @Chalnaayaaar

NEET(UG) 2017

47. Mixture of chloroxylenol and terpineol acts as :
(1) Antiseptic (2) Antipyretic
(3) Antibiotic (4) Analgesic

48. Which of the following statements is not correct :-
(1) Ovalbumin is a simple food reserve in egg-white
(2) Blood proteins thrombin and fibrinogen are involved in blood clotting
(3) Denaturation makes the proteins more active
(4) Insulin maintains sugar level in the blood of a human body

NEET(UG) 2018

49. The difference between amylose and amylopectin is
(1) Amylopectin have 1 → 4 α-linkage and 1→ 6 α-linkage
(2) Amylose have 1 → 4 α-linkage and 1→ 6 β-linkage
(3) Amylopectin have 1 → 4 α-linkage and 1→ 6 β-linkage
(4) Amylose is made up of glucose and galactose

50. Which of the following compounds can form a zwitterion ?
(1) Aniline (2) Acetanilide
(3) Benzoic acid (4) Glycine

51. Regarding cross-linked or network polymers, which of the following statements is ***incorrect?***
(1) They contain covalent bonds between various linear polymer chains.
(2) They are formed from bi-and tri-functional monomers.
(3) Examples are bakelite and melamine.
(4) They contain strong covalent bonds in their polymer chains.

NEET(UG) 2019

52. Among the following, the narrow spectrum antibiotic is :-
(1) Penicillin G (2) Ampicillin
(3) Amoxycillin (4) Chloramphenicol

TG: @Chalnaayaaar

53. The biodegradable polymer is :-
(1) nylon–6,6 (2) nylon 2–nylon 6
(3) nylon–6 (4) Buna–S

54. The non-essential amino acid among the following is:
(1) Valine (2) Leucine
(3) Alanine (4) Lysine

NEET(UG) 2019 (ODISHA)

55. Which structure(s) of proteins remains(s) intact during denaturation process ?
(1) Both secondary and tertiary structures
(2) Primary structure only
(3) Secondary structure only
(4) Tertiary structure only

56. The polymer that is used as a substitute for wool in making commercial fibres is :-
(1) Melamine (2) nylon-6, 6
(3) polyacrylonitrile (4) Buna-N

57. The artificial sweetener stable at cooking temperature and does not provide calories is:-
(1) Saccharin (2) Aspartame
(3) Sucralose (4) Alitame

58. Match the catalyst with the process :-

Catalyst	Process
(i) V_2O_5	(a) The oxidation of ethyne to ethanal
(ii) $TiCl_4+Al(CH_3)_3$	(b) Polymerisation of alkynes
(iii) $PdCl_2$	(c) Oxidation of SO_2 in the manufacture of H_2SO_4
(iv) Nickel	(d) Polymerisation of Complexes ethylene

Which of the following is the correct option ?
(1) i-c, ii-d, iii-a, iv-b (2) i-a, ii-b, iii-c, iv-d
(3) i-a, ii-c, iii-b, iv-d (4) i-c, ii-a, iii-d, iv-b

NEET(UG) 2020

59. Sucrose on hydrolysis gives :
(1) α-D-Fructose + β-D-Fructose
(2) β-D-Glucose + α-D-Fructose
(3) α-D-Glucose + β-D-Glucose
(4) α-D-Glucose + β-D-Fructose

TG: @Chalnaayaaar

60. Which of the following is a cationic detergent?
(1) Sodium dodecylbenzene sulphonate
(2) Sodium lauryl sulphate
(3) Sodium stearate
(4) Cetyltrimethyl ammonium bromide

61. Which of the following is a natural polymer ?
(1) poly (Butadiene-acrylonitrile)
(2) cis-1,4-polyisoprene
(3) poly (Butadiene-styrene)
(4) polybutadiene

62. Which of the following is a basic amino acid :
(1) Lysine (2) Serine
(3) Alanine (4) Tyrosine

NEET(UG) 2020 (COVID-19)

63. Which of the following is **not** true about chloramphenicol ?
(1) It inhibits the growth of only grampositive bacteria.
(2) It is a broad spectrum antibiotic.
(3) It is not bactericidal.
(4) It is bacteriostatic.

64. Which of the following statement is correct about Bakelite ?
(1) It is a cross linked polymer.
(2) It is an addition polymer.
(3) It is a branched chain polymer.
(4) It is a linear polymer.

65. The reaction of concentrated sulphuric acid with carbohydrates ($C_{12}H_{22}O_{11}$) is an example of
(1) Dehydration (2) Oxidation
(3) Reduction (4) Sulphonation

66. Deficiency of which vitamin causes osteomalacia?
(1) Vitamin A (2) Vitamin D
(3) Vitamin K (4) Vitamin E

NEET(UG) 2021

67. Given below are two statements:
Statement I :
Aspirin and Paracetamol belong to the class of narcotic analgesics.
Statement II :
Morphine and Heroin are non-narcotic analgesics. In the light of the above statements, choose the **correct** answer from the options given below.
(1) Both **Statement I** and **Statement II** are true.
(2) Both **Statement** I and **Statement II** are false.
(3) **Statement I** is correct but **Statement II** is false.
(4) **Statement I** is incorrect but **Statement II** is true.

68. The RBC deficiency is deficiency disease of:
(1) Vitamin B_{12} (2) Vitamin B_6
(3) Vitamin B_1 (4) Vitamin B_2

69. Which one of the following polymers is prepared by addition polymerisation ?
(1) Teflon (2) Nylon-66
(3) Novolac (4) Dacron

EXERCISE-II (Previous Year Questions) ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	1	3	2	1	2	4	4	1	1	2	3	4	1	3	2
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	2	3	3	2	1	2	4	4	4	2	4	4	2	4	4
Question	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Answer	4	3	4	4	3	3	3	4	3	2	4	1	1	1	1
Question	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Answer	2	1	3	1	4	4	1	2	3	2	3	3	1	4	4
Question	61	62	63	64	65	66	67	68	69						
Answer	2	1	1	1	1	2	2	1	1						

TG: @Chalnaayaaar

Exercise-III (Analytical Questions) Master Your Understanding

1. In which of the following properties of an open chain structure of glucose could not be explained by Baeyer –
(1) Glucose contain aldehyde group, but does not give schiff's test
(2) Glucose does not react with sodium hydrogen sulphite and ammonia
(3) The pentaacetate of glucose does not react with hydroxy amine indicates absence of –CHO group
(4) All of these

2. When glucose was crystallized from a concentrated solution at 30°C & 98°C. It gave α & β form of glucose respectively what are the angle of rotation [α_D] for both forms –
(1) (+) 111° & (+)19.2°
(2) (+)19.2° & (–) 111°
(3) (+) 111° & (–)19.2°
(4) (–) 111° & (–)19.2°

3. Dinucleotide is obtained by joining two nucleotides together by phosphodiester linkage. Between which carbon atoms of pentose sugar of nucleotides are these linkages presents.
(1) 5' and 3' (2) 1' and 5'
(3) 5' and 5' (4) 3' and 3'

4. Which statement is incorrect in following –
(1) Sucrose is dextrorotatory
(2) After hydrolysis of sucrose, dextrorotatory glucose and laevorotatory fructose will obtained
(3) Laevorotation of fructose is more than dextrorotation of glucose
(4) Cane sugar gives nonequimolar mixture of D- (+)-glucose and D- (–)-fructose

5. On hydrolysis of one mole of maltose two moles of D-glucose are obtained. These two glucose units are linked together through a α-glycoside linkage between –
(1) C-2 of one unit and C-4 of another unit
(2) C-1 of one unit and C-2 of another unit
(3) C-1 of one unit and C-4 of another unit
(4) C-2 of one unit and C-3 of another unit

TG: @Chalnaayaaar

6. Which statement is/are incorrect –
(1) Natural starch has approximately 10-20% of amylose and 80-90% of amylopectin.
(2) Amylose is water soluble and gives blue colour with iodine
(3) Amylopectin is a branched chain polysaccharides insoluble in water and does not give blue colour with iodine
(4) Starch is not hydrolysed by enzyme amylase present in saliva

7. Which of the following statement is true for proteins –
(1) Proteins are high molecular mass complex biopolymers of amino acids present in all living cells
(2) Protein may contains phosphorous & iodine
(3) Proteins may contains iron, copper, zinc and manganese
(4) All of these

8. Which of following are essential amino acids–
(a) Aspartic acid (b) Leucine
(c) Valine (d) Glycine
(e) Alanine
(1) a, b & c (2) a, b, d & e
(3) b & c (4) a, c, d & e

9. At a certain hydrogen ion concentration (pH), the dipolar ion exists as a neutral ion and does not migrate to either electrode. What is the name of pH point for amino acids –
(1) Isoelectric point (2) Isoprotonic point
(3) Isotonic point (4) None of these

10. Which of the following reactions of glucose can be explained only by its cyclic structure.
(1) Glucose forms penta acetate
(2) Glucose reacts with hydroxylamine to form an oxime
(3) Penta acetate of glucose does not react with hydroxylamine
(4) Glucose is oxidised by nitric acid to gluconic acid

TG: @Chalnaayaaar

11. Protein found in biological system with definite configuration and biological activity is called –
(1) Amino acids (2) Native protein
(3) Conformer protein (4) Inactive protein

12. Which of following statement is not true for enzyme –
(1) Some enzymes can be non proteins also
(2) Prothetic groups which get attached to enzyme at the time of reaction are known as cofactor.
(3) Enzymes provides lower activation pathways there by increasing the rate of reaction
(4) None of these

13. Which of following statements is incorrect –
(1) Proteins have a polyamide chain while nucleic acids contains a poly phosphate ester chain
(2) Nucleic acids are long chain polymers of nucleotides
(3) RNA is major source of genetic information which is copied into a DNA molecules
(4) Proteins are synthesized in a process involving translation of RNA.

14. Complete hydrolysis of DNA or RNA yields following–
(1) Ribose in RNA & deoxyribose in DNA
(2) Hetrocyclic nitrogenous purines base
(3) Hetrocyclic nitrogenous pyrimidines
(4) All of these

15. Nucleosides are –
(1) Base + sugar = Nucleoside
(2) N–glycosides of purine or pyrimidine bases with pentose sugar
(3) Both of these
(4) None of these

16. RNA molecules in turn directs the synthesis of specific proteins which are characteristic of each kind of organism. This process is known as –
(1) Translation (2) Transcription
(3) Replication (4) None of these

17. A single stand of DNA can act as a template on which a molecule of RNA is synthesized in a specific manner. This process is known as –
(1) Replication (2) Transcription
(3) Translation (4) None of these

18. Which is correct statement –
(1) Starch is polymer of α–glucose
(2) Amylose is a component of cellulose
(3) Protiens are composed of only one type of amino acid
(4) In cyclic structure of fructose, there are four carbons and one oxygen atom

19. Which is incorrect about histamine.
(1) Histamine stimulates the secretion of pepsin & HCl in the stomach
(2) Histamine is a potent vasodilator
(3) Histamine is also responsible for nasal congestion associated with cold or allergic response to pollen.
(4) Histamine doesn't affact muscles of the bronchi

20. Brompheniramine & Terfenadine drugs belongs to which category.
(1) Antacid (2) Antihistamine
(3) Transquilizer (4) Antiseptic

21. Find incorrect statement :
(1) Tranquilizer & analgesis are neurologically active drugs
(2) Barbiturates are sleep producing agents
(3) Tranquilizer are used to reduce stress, mental diseases
(4) Analgesis are used to reduce pain with causing impairement of consciousness

22. Find incorrect statement
(1) Detergent involves soap and synthetic detergents
(2) Sodium soap and potassium soap are soluble in water
(3) $C_{17}H_{35}COONa$ is sodium stearate and used as a soap
(4) During saponification, soap is obtained in solid form

TG: @Chalnaayaaar

23. Which of the following is/are condensation polymers-

(1) Dacron (2) Nylon 6

(3) Nylon 6,6 (4) All of these

24. Free radical generating initiator (catalyst) is/are :

(1) Benzoyl peroxide

(2) Acetyl peroxide

(3) Tert-butyl peroxide

(4) All of these

25. Novolac on heating with formaldehyde under goes cross linking to form an infusible solid mass is called.

(1) Bakelite

(2) Malamine-formaldehyde

(3) Terylene

(4) Nylon-6

26. Correct statements about vulcanisation of rubber is/are-

(1) Rubber gets stiffened

(2) In this process, raw rubber is heated with sulphur and appropirate additive at temperature range 373 K to 415 K

(3) By this process physical properties of rubber improve

(4) All of these

27. Arrange following polymers in increasing order of their intermolecular force-

(i) Nylon-6 (ii) Neoprene

(iii) Poly vinyl chloride

(1) i < ii < iii (2) ii < iii < i

(3) iii < i < ii (4) iii < ii < i

28. Biodegradable polymer is-

(1) PHBV (2) Nylon 2 - Nylon 6

(3) Both of these (4) None of these

TG: @Chalnaayaaar

29. Match the column.

Column-I (Carbohydrates)		**Column-II** (Source or name)	
(a)	Sucrose	(p)	Animal starch
(b)	Lactose	(q)	Cereals, roots, tubers
(c)	Glycogen	(r)	Milk sugar
(d)	Starch	(s)	Cane sugar

(1) a – r, b – s, c – q, d - p

(2) a – s, b – r, c – p, d - q

(3) a – s, b – p, c – r, d - q

(4) a – p, b – q, c – r, d - s

30. Match the column.

Column-I (Reaction of Glucose)		**Column-II** (Product)	
(a)	Glucose $\xrightarrow{HI,\ \Delta}$	(p)	Osazone
(b)	Glucose $\xrightarrow{Br_2 \text{ water}}$	(q)	n-Hexane
(c)	Glucose $\xrightarrow{\text{Nitric acid}}$	(r)	Gluconic acid
(d)	Glucose $\xrightarrow[H^{\oplus}]{3Ph-NH-NH_2}$	(s)	Saccharic acid

(1) a – q, b – s, c – p, d - r

(2) a – q, b – p, c – r, d - s

(3) a – q, b – s, c – r, d - p

(4) a – q, b – r, c – s, d - p

31. Match the column.

Column-I (Carbohydrates)		**Column-II** (Monosaccharide unit)	
(a)	Maltose	(p)	β-D-Glucose
(b)	Lactose	(q)	Two α-D-Glucose
(c)	Cellulose	(r)	β-D-Galactose & β-D-Glucose
(d)	Sucrose	(s)	α-D-Glucose & β-D-Fructose

(1) a – q, b – s, c – r, d - p

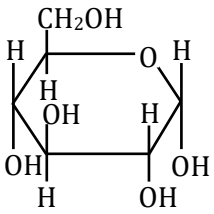
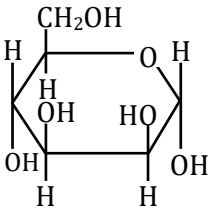
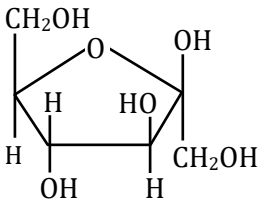
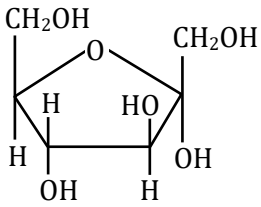
(2) a – q, b – r, c – p, d - s

(3) a – r, b – s, c – p, d - q

(4) a – r, b – p, c – q, d - s

TG: @Chalnaayaaar

32. Match the column.

Column-I (Structure)		Column-II (Name)	
(a)		(p)	α-D-annose
(b)		(q)	β-D-Fructose
(c)		(r)	α-D-Glucose
(d)		(s)	α-D-Fructose

(1) a – p, b – r, c – q, d - s
(2) a – r, b – p, c – q, d - s
(3) a – p, b – r, c – s, d - q
(4) a – r, b – p, c – s, d - q

33. Which of the following are non Reducing in nature-

(A) Cellulose (B) Sucrose
(C) Lactose (D) Starch

(1) A and B are correct
(2) A, B and C are correct
(3) A, B and D are correct
(4) A, C and D are correct

34. Given below are two statements; one is labelled as **Assertion** and the other is labelled as **Reason**.

Assertion :- Glucose gets oxidised to six carbon carboxylic acid (gluconic acid) on reaction with a mild oxidising agent like Br_2 water.

Reason :- This indicates the presence of a primary alcoholic (–OH) group in glucose.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

(1) Assertion & reason both are true & reason is a correct explaination of the assertion.
(2) Assertion & reason both are true but reason is not a correct explaination of the assertion.
(3) Both assertion & reason are false.
(4) Aassertion is true but reason is false.

35. Given below are two statements:

Statement-I : the pentaacetate of glucose does not react with hydroxylamine indicating the absence of free –CHO group.

Statement-II : Despite having the aldehyde group, glucose does not give schiff's test and it does not form the hydrogen-sulphite addition product with $NaHSO_3$.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement I is correct and statement II is incorrect
(2) Statement-I and statement-II both are correct.
(3) Statement I and statement II both are incorrect
(4) Statement I is incorrect and statement II is correct.

36. Given below are two statements:

Statement-I : All carbohydrates which reduce Fehling's solution and Tollen's reagent are refered to as reducing sugars.

Statement-II : All disaccharides whether aldose or ketose are reducing sugares.

TG: @Chalnaayaaar

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement I is incorrect and statement II is correct.

(2) Statement-I and statement-II both are correct.

(3) Statement I is correct and statement II is incorrect

(4) Statement I and statement II both are incorrect

37. Given below are two statements:

Statement-I : Sucrose is laevorotatory but after hydrolysis gives dextrorotatory glucose and laevorotatory fructose.

Statement-II : Hydrolysis of sucrose brings about a change in the sign of rotation, from dextro (+) to laevo (–) and the product is named as invert sugar.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement I is correct and statement II is incorrect

(2) Statement I is incorrect and statement II is correct.

(3) Statement-I and statement-II both are correct.

(4) Statement I and statement II both are incorrect

38. Given below are two statements:

Statement-I : Amylose is water soluble component which constitutes about 15 – 20% of starch. Chemically amylose is a long unbranched chain with 200–1000 α–D–(+)–glucose units held together by C_1–C_4 glycosidic linkage.

Statement-II : Amylopectin is insoluble in water and constitutes about 80–85% of starch. It is a branched chain polymer of α–D–glucose units in which chain is formed by C_1–C_4 glycosidic linkage whereas branching occurs by C_1–C_6 glycosidic linkage.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I and statement-II both are correct.

(2) Statement I is correct and statement II is incorrect

(3) Statement I is incorrect and statement II is correct.

(4) Statement I and statement II both are incorrect

39. Given below are two statements:

Statement-I : Only α–Amino acids are obtained on hydrolysis of proteins.

Statement-II : The amino acids which can be synthesised in body are known as essential amino acids.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Both statement I & II are correct.

(2) Both statement I & II are incorrect.

(3) Statement I is incorrect but statement II is correct

(4) Statement I is correct but statement II is incorrect

40. Given below are two statements:

Statement-I : In Zwitter ionic form, Amino acids show amphoteric behaviour as they react both with acid & bases.

Statement-II : Most natural occurring amino acids have D-configuration.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement I is incorrect but statement II is correct

(2) Statement I is correct but statement II is incorrect

(3) Both statement I & II are incorrect.

(4) Both statement I & II are correct.

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41. Match the column I & II :-

Column-I (Vitamins)		Column-II (Sources)	
(a)	Vitamin-A	(p)	Exposure to sunlight
(b)	Vitamin-B12	(q)	Yeast, milk
(c)	Vitamin-B6	(r)	Meat
(d)	Vitamin-D	(s)	Fish liver oil

(1) a - s, b - r, c - q, d - p
(2) a - s, b - q, c - p, d - r
(3) a - q, b - s, c - r, d - p
(4) a - r, b - p, c - q, d - s

42. Match the column I & II :-

Column-I (Vitamins)		Column-II (Disease)	
(a)	Vitamin-B1	(p)	Scurvy
(b)	Vitamin-B6	(q)	Blood clotting delay
(c)	Vitamin-C	(r)	Beri-Beri
(d)	Vitamin-K	(s)	Convulsions

(1) a - r, b - p, c - q, d - s
(2) a - s, b - q, c - p, d - r
(3) a - r, b - s, c - p, d - q
(4) a - q, b - r, c - s, d - p

43. Match the column :-

Column-I		Column-II	
(a)	Fat soluble vitamin	(p)	Fingerprinting
(b)	Water soluble vitamin	(q)	Vitamin A and vitamin D
(c)	DNA	(r)	Uracil
(d)	RNA	(s)	Vitamin B and vitamin C

(1) a - s, b - s, c - r, d - p
(2) a - q, b - s, c - p, d - r
(3) a - q, b - r, c - p, d - s
(4) a - q, b - s, c - r, d - p

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44. Match the column I & II :-

Column-I		Column-II	
(a)	Heredity	(p)	Proteins
(b)	Chromosomes made up by	(q)	Transmission of inherent characters
(c)	Nucleic Acid	(r)	Increased fragility of RBCs
(d)	Vitamin-E deficiency	(s)	Long chain polymers of Nucleotides

(1) a - q, b - p, c - s, d - r
(2) a - q, b - p, c - r, d - s
(3) a - p, b - q, c - r, d - s
(4) a - p, b - q, c - s, d - r

45. Given below are two statements; one is labelled as **Assertion (A)** and the other is labelled as **Reason(R)**.

Assertion : Amino acids are water soluble, high melting solids & behave like salts rather than simple amines or carboxylic acids.

Reason : This behaviour is due to presence of both acidic (–COOH) & basic ($-NH_2$) groups in the same molecule.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

(1) Both assertion and reason are false.
(2) Assertion is true but reason is false.
(3) Both assertion & reason are true but reason is not the correct explanation of assertion.
(4) Both assertion & reason are true and reason is a correct explanation of assertion.

46. **Statement-I :** Protein found in a biological system with unique three dimensional structure & biological activity is called a native protein.

Statement-II : Except glycine all other naturally occurring α-Amino acids are optically active.

(1) Statement I is correct but statement II is incorrect

(2) Statement I is incorrect but statement II is correct.

(3) Both statements I and statements II are correct.

(4) Both statements I and statements II are incorrect.

47. **Statement-I :** Enzymes which do not catalyse the oxidation of one substrate with simultaneous reduction of another substrate are named as oxido-Reductase enzymes.

Statement-II : Enzymes are needed in large quantity for the progress of a reaction.

(1) Statement I is incorrect but statement II is correct.

(2) Statement I is correct but statement II is incorrect

(3) Both statements I and statements II are incorrect.

(4) Both statements I and statements II are correct.

48. Read given statements

(A) During denaturation, 2° & 3° structures of proteins are not destroyed.

(B) 1° structure of protein is destroyed during denaturation.

(C) Curdling of milk which is caused due to formaton of lactic acid by bacteria present in milk is an example of denaturation.

Which statement(s) is/are incorrect in given options -

(1) A, C only (2) A, B only

(3) A, B, C (4) B, C only

49. Which of the following are addition copolymers?

A. Polyacrylonitrile B. Nylon – 6

C. Buna – S D. Buna – N

(1) A, C, D (2) A, B, D

(3) C and D (4) B and C

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50. Match the column

Column – I (Polymer)		Column – II (Type of Polymer)	
(a)	Low density polythene	(p)	Addition homopolymer
(b)	Nylon – 6	(q)	Addition copolymer
(c)	Dacron	(r)	Condensation homopolymer
(d)	Buna-S Rubber	(s)	Condensation copolymer

(1) a – p, b – s, c – q, d – r

(2) a – p, b – r, c – s, d – q

(3) a – q, b – s, c – r, d – p

(4) a – q, b – r, c – p, d – s

51. Match the column

Column – I (Polymer)		Column – II (Monomeric unit)	
(a)	Nylon – 6	(p)	Terephthalic acid
(b)	Dacron	(q)	Styrene
(c)	Buna – S	(r)	Cellulose acetate
(d)	Rayon	(s)	Caprolactum

(1) a – s, b – p, c – q, d – r

(2) a – s, b – q, c – r, d – p

(3) a – p, b – r, c – s, d – q

(4) a – p, b – s, c – q, d – r

52. Match the column

Column – I (Polymer)		Column – II (Uses of polymer)	
(a)	Polytetra Fluoroethene	(p)	In making commercial fibers
(b)	High density polythene	(q)	Tyre cords, Fabrics, ropes
(c)	Nylon – 6	(r)	Non-stick surface coated utensils
(d)	Poly acrylonitrile	(s)	Dustbins, buckets, pipes

(1) a – p, b – q, c – r, d – s

(2) a – p, b – r, c – s, d – q

(3) a – r, b – s, c – q, d – p

(4) a – r, b – p, c – s, d – q

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53. Given below are two statements:

Statement I : Teflon is chemically inert and not resistant to attack by corrosive reagents.

Statement II : Teflon is used in making oil seals and gaskets and also used for non-stick surface coated utensils.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement – I is correct and statement – II is incorrect.

(2) Statement – I and statement – II both are correct.

(3) Statement – I and statemnt – II both are incorrect.

(4) Statement – I is incorrect and statement – II is correct.

54. Given below are two statements; one is labelled as **Assertion (A)** and the other is labelled as **Reason(R)**.

Assertion : HDP is chemically inert and tough but flexible and a poor conductor of electricity.

Reason : HDP is used in insulation of electricity carrying wires and manufacture of squeeze bottles, toys and flexible pipes.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

(1) Both (A) and (R) are correct but (R) is not the correct explanation of (A).

(2) Both (A) and (R) are correct and (R) is the correct explanation of (A).

(3) (A) is correct but (R) is not correct.

(4) (A) is not correct but (R) is correct.

55. Given below are two statements:

Statement-I : The polymers made by addition polymerisation from two different monomers along with elimination of small molecules like H_2O, HCl etc., are termed as homopolymers.

Statement-II : The addition polymers formed by the polymerisation of a single monomeric species are known as copolymers.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I is correct and statement-II is incorrect.

(2) Statement-I and statement-II both are incorrect.

(3) Statement-I is incorrect and statement-II is correct.

(4) Statement-I and statement-II both are correct.

56. Given below are two statements:

Statement I: High density polythene is linear polymer.

Statement II: HDP formed when addition polymerisation of ethene takes place in hydrocarbon solvent in presence of Ziegler Natta catalyst at temperature below 300K and under pressure of 6-7 atomspheres.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I is correct and statement-II is incorrect.

(2) Statement-I and statement-II are incorrect.

(3) Statement-I and statement-II are correct.

(4) Statement-I is incorrect while statement-II is correct.

57. Given below are two statements:

Statement-I: The formation of terylene or dacron by interaction of ethylene glycol and terephthalic acid is an example of condensation polymerisation.

Statement-II : Poly condensation reactions may result in the loss of simple molecules as water, alcohol, hydrogen chloride etc. and lead to formation of high molecular mass condensation polymer.

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In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I and statement-II both are correct.

(2) Statement-I is correct and statement-II is incorrect.

(3) Statement-I is incorrect and statement-II is correct.

(4) Statement-I and statement-II both are incorrect.

58. (a) Bakelite obtained by condensation polymerisation of phenol & formaldehyde

(b) Novolac is non linear initial product of polymerisation.

(c) Novolac on heating with formaldehyde undergoes cross linking to give bakelite.

Which of the above statement is/are correct?

(1) a, c (2) b, c

(3) a, b (4) all are correct.

59. Given below are two statements:

Statement – I : Copolymerisation is a polymerisation reaction in which a mixture of more than one monomeric species allowed to polymerise & form a copolymer.

Statement – II : Copolymer can be made by chain growth & step growth polymerisation.

In the light of the above statements, choose the most appropriate answer from the options given below :

(1) Statement I & II both are incorrect.

(2) Statement I & II both are correct.

(3) Statement I is correct but II is incorrect.

(4) Statement I is incorrect but II is correct.

60. Given below are two statements:

Statement-I : cis polyisoprene consists of various chains helds together by weak vanderwaal's interactions & has a coiled structure.

Statement-II : Natural rubber is insoluble in non-polar solvents and is resistant to attack by oxidising agents.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I is incorrect but statement-II is correct.

(2) Statement-I is correct but statement-II is incorrect.

(3) Statement I & II both are incorrect.

(4) Statement I & II both are correct.

61. Given below are two statements:

Statement – I : PHBV is a aliphatic polyester polymer as one of the important biodegradable polymer.

Statement – II : PHBV is used in speciality packaging, orthopaedic devices and in controlled release of drugs.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement- I is incorrect statement – II is correct.

(2) Both statement – I & II are incorrect.

(3) Statement – I is correct but II is incorrect.

(4) Statement I & II both are correct.

62. Given below are two statements:

Statement–I: Nylon–2–Nylon–6 is a homopolymer.

Statement–II : It is a biodegradable polymer.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement – I is incorrect but statement – II is correct.

(2) Statement – I is correct but statement – II is incorrect.

(3) Both statement I & II are correct.

(4) Both statement I & II are incorrect.

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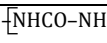
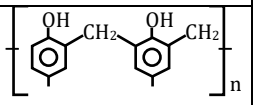
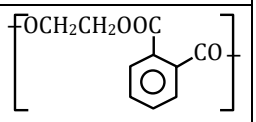
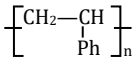
63. Match the column- I & II.

Column – I		Column – II	
(a)	Natural rubber	(p)	Copolymer of 1,3-butadiene
(b)	Vulcanisation of rubber	(q)	Free radical polymerisation of chloroprene
(c)	Buna–S rubber	(r)	Cis–1,4 polyisoprene
(d)	Neoprene	(s)	Mixing of sulphur

(1) a – s, b – r, c – p, d – q
(2) a – r, b – s, c – p, d – q
(3) a – r, b – p, c – q, d – s
(4) a – q, b – s, c – p, d – q

64. Match the column – I & II

Column – I Monomer		Column – II Polymeric structure	
(a)	Styrene	(p)	
(b)	Urea + formaldehyde	(q)	
(c)	Phenol + formaldehyde	(r)	
(d)	Ethylene glycol + phthalic acid	(s)	

(1) a – s, b – q, c – p, d – r
(2) a – r, b – p, c – q, d – r
(3) a – s, b – p, c – q, d – r
(4) a – q, b – s, c – r, d – p

65. Match column I & II.

Column – I Polymer		Column – II Uses	
(a)	Polypropene	(p)	Manufacture of Raincoat, Handbags
(b)	PVC	(q)	Making ropes, toys, pipes & fibres
(c)	Glyptal	(r)	Making unbreakable cups & laminated sheets
(d)	Urea formaldehyde Resin	(s)	Making paints & lacqueres

(1) a – s, b – r, c – p, d – q
(2) a – q, b – r, c – p, d – s
(3) a – r, b – s, c – q, d – p
(4) a – q, b – p, c – s, d – r

66. **Assertion**: Buna – N is an example of copolymer.
Reason : It is obtained by the polymerisation of 1, 3-Butadiene & acrylonitrile in the presence of peroxide catalyst.
(1) Assertion & reason both are true & reason is a correct explanation of the assertion.
(2) Assertion & reason both are true but reason is not a correct explanation of the assertion.
(3) If both assertion & reason are false.
(4) If both assertion is true but reason is false.

67. Bacteriostatic antibiotics are-
(A) Penicillin
(B) Erythromycin
(C) Chloramphenicol
(D) Ofloxacin
(1) A and D are correct
(2) B and C are correct
(3) A, B and C are correct
(4) A, C and D are correct

68. Match the column

Column-I		Column-II	
(a)	Norethindrone	(p)	broard spectrum antibiotic
(b)	Prontosil	(q)	narrow spectrum antibiotic
(c)	Vancomycin	(r)	anti-bacterial agent
(d)	Penicillin-G	(s)	antifertility drugs

(1) a - s, b - q, c - p, d - r
(2) a - p, b - r, c - q, d - s
(3) a - p, b - s, c - q, d - r
(4) a - s, b - r, c - p, d - q

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69. Match the column

Column-I (Artificial Sweetring agents)		Column-II	
(a)	Sucralose	(p)	High potency sweetner
(b)	Alitame	(q)	Ortho-sulphobenzimide
(c)	Aspertame	(r)	Stable at cooking temperature
(d)	Saccharin	(s)	Unstable at cooking temperature

(1) a - q, b - p, c - r, d - s
(2) a - r, b - p, c - s, d - q
(3) a - r, b - s, c - p, d - q
(4) a - q, b - s, c - r, d – p

70. Match the column

Column-I		Column-II	
(a)	Anionic detergent	(p)	Tri sodium phosphate
(b)	Cationic detergent	(q)	Cetyl trimethyl ammonium bromide
(c)	Non-ionic detergent	(r)	Sodium dodecyl benzene sulphonate
(d)	Builders	(s)	Stearic acid react with poly ethylene glycol

(1) a - r, b - s, c - q, d - p
(2) a - s, b - q, c - r, d - p
(3) a - r, b – q, c - s, d - p
(4) a - q, b - r, c - p, d - s

71. Given below are two statements; one is labelled as **Assertion (A)** and the other is labelled as **Reason(R)**.

Assertion: Salvarsan is medicine of syphilis. But it is toxic to human beings.

Reason: Salvarsan contains arsenic which is toxic.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

(1) Both (A) and (R) are correct and (R) is the correct explanation of (A).
(2) Both (A) and (R) are correct but (R) is not the correct explanation of (A).
(3) (A) is correct but (R) is not correct.
(4) (A) is not correct but (R) is correct.

72. Given below are two statements:

Statement-I: Sulphur dioxide and sulphite are useful antioxidants for wine and bear, sugar, syrups and cuts, peeled or dried fruits and vegetables

Statement-II: Antioxidants help in food preservation by retarding action of oxygen on food. These are less reactive towards oxygen than the food material they are protecting.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I and Statement-II both are correct.
(2) Statement-I and Statement-II both are incorrect.
(3) Statement-I is correct and Statement-II is incorrect.
(4) Statement-I is incorrect and Statement-II is correct.

73. Given below are two statements:

Statement-I: Mechanism of cleansing action of non-ionic detergents is same as that of soaps. These also remove grease and oil by micelle formation.

Statement-II: In anionic detergents the anionic part of molecule is not involved in the cleasing action

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I and Statement-II both are correct.
(2) Statement-I and Statement-II both are incorrect.
(3) Statement-I is correct and Statement-II is incorrect.
(4) Statement-I is incorrect and Statement-II is correct.

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74. Given below are two statements:

Statement-I: All soaps are made by boiling fats or oils with suitable insoluble hydroxide.

Statement-II: That float in water are made by beating tiny air bubbles before their hardening.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I is correct and Statement-II is incorrect.

(2) Statement-I is incorrect Statement-II is correct.

(3) Statement-I and Statement-II both are correct.

(4) Statement-I and Statement-II both are incorrect.

75. Given below are two statements:

Statement-I: Chlorine in the concentration of 0.2 to 0.4 ppm in aqueous solution and sulphur dioxide in very low concentrations, are disinfectants.

Statement-II: Iodoform is used as an antiseptic for wounds while boric acid in dilute aqueous solution is weak antiseptic for eyes.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I is correct while Statement-II is incorrect.

(2) Statement-I and Statement-II is incorrect.

(3) Statement-I is incorrect & Statement-II is correct.

(4) Statement-I and Statement-II are correct.

76. Given below are two statements:

Statement-I: Tranquilizers & Analgesics are neurologically active drugs.

Statement-II: Noradrenaline is one of the Neurotransmitters that play a role in mood changes.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I is correct but Statement-II is incorrect.

(2) Both Statement-I and Statement-II are correct.

(3) Both Statement-I and Statement-II are incorrect.

(4) Statement-I is incorrect but Statement-II is correct.

77. Match the column

Column-I (Drug)		**Column-II (Drug Action)**	
(a)	Antacid	(p)	Phenelzine (Nardil)
(b)	Antihistamine	(q)	Zantac
(c)	Tranquilizers	(r)	Morphine
(d)	Analgesic	(s)	Dimetapp

Choose the correct options-

(1) a - q, b - p, c - r, d - s

(2) a – q, b - s, c - p, d - r

(3) a - r, b - q, c - s, d - p

(4) a - s, b - r, c - p, d - q

78. Given below are two statements:

Statement-I: Antacids are used in the treatment of Nasal congestion associated with common cold.

Statement-II: Cimetidine is an example of Antacid.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I is incorrect but Statement-II is correct.

(2) Statement-I is correct but Statement-II is incorrect.

(3) Both Statement-I and Statement-II are incorrect.

(4) Statement-I and Statement-II are correct.

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79. Match the column

Column-I		Column-II	
(a)	Drug	(p)	Genetic information
(b)	Enzymes	(q)	Use of chemical for therapatic effect
(c)	Nucleic acids	(r)	Biological catalyst like proteins
(d)	Chemotherapy	(s)	Intract with macromolecular targets & biological response

Choose the correct combination-

(1) a - q, b - r, c - s, d - p

(2) a – s, b - r, c - p, d - q

(3) a - r, b - p, c - q, d - s

(4) a - s, b - p, c - s, d - q

80. Given below are two statements:

Statement-I: Some drugs don't bind to the enzymes active site.

Statement-II: These bind to a different site of enzyme which is called allosteric site.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Both Statement-I and Statement-II are incorrect.

(2) Statement-I and Statement-II are correct.

(3) Statement-I is correct but Statement-II is incorrect.

(4) Statement-I is incorrect but Statement-II is correct.

81. Given below are two statements:

Statement-I: Classification based on pharmacological effect of the drug is useful for treatment of a particular type of problem.

Statement-II: Analgesics have pain killing effect.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement-I is correct but Statement-II is incorrect.

(2) Statement-I is incorrect but Statement-II is correct.

(3) Statement-I and Statement-II are correct.

(4) Statement-I and Statement-II are incorrect.

82. Given below are two statements; one is labelled as **Assertion (A)** and the other is labelled as **Reason(R).**

Assertion: Binding of inhibitor at allosteric site changes the shape of active site in such way that substrate cannot recognise it.

Reason: Some drugs do not bind to the enzymes active site these bind to a different site of enzyme. Which is called allosteric site.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

(1) Both (A) and (R) are correct and (R) is the correct explanation of (A).

(2) Both (A) and (R) are correct but (R) is not the correct explanation of (A).

(3) (A) is correct but (R) is not correct.

(4) (A) is not correct but (R) is correct.

83. (a) Aspirin

(b) Morphine

(c) Codeine

(d) Seldane

In above identify correct narcotic drugs combination in following option:

(1) a, b, c

(2) b, c, d

(3) a, c, d

(4) only b, c

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84. Match the column

Column-I (Drug)		Column-II (Function)	
(a)	Iproniazid	(p)	Anti blood clotting
(b)	Equanil	(q)	Anti depressant drug
(c)	Barbiturates	(r)	Control hypertension & Depression
(d)	Aspirin	(s)	Hypnotic

(1) a - q, b - r, c - s, d - p
(2) a - r, b - s, c - q, d - r
(3) a - q, b - s, c – p, d - r
(4) a - r, b – q, c - s, d - q

EXERCISE-III (Analytical Questions) ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	4	1	1	4	3	4	4	3	1	3	2	2	3	4	3
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	1	2	1	4	2	4	4	4	4	1	4	2	3	2	4
Question	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Answer	2	2	3	4	2	3	2	1	4	2	1	3	2	1	4
Question	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Answer	3	3	2	3	2	1	3	4	3	2	1	1	1	2	2
Question	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Answer	4	1	2	3	4	1	2	4	2	3	1	3	3	2	4
Question	76	77	78	79	80	81	82	83	84						
Answer	2	2	1	2	2	3	1	4	1						

TG: @Chalnaayaaar

Important Notes